

Tarea Académica independiente

Fecha de entrega: miércoles 14 de julio.

Resolver los siguientes ejercicios:

1: a, b, c, d, e, f.

2: a, b, c, d, e, f.

5: a, b, c, d, e.

6: a, b, c, d, e.

7: a, b, c, d.

8: a, b, c, d, e.

10: a, b, c, d.

11: a, b, c, d.

1 Simplify using the laws of exponents:

a $5^4 \times 5^7$

b $d^2 \times d^6$

c $\frac{k^8}{k^3}$

d $\frac{7^5}{7^6}$

e $(x^2)^5$

f $(3^4)^4$

g $\frac{p^3}{p^7}$

h $n^3 \times n^9$

i $(5^t)^3$

j $7^x \times 7^2$

k $\frac{10^3}{10^9}$

l $(c^4)^m$

2 Write as powers of 2:

a 4

b $\frac{1}{4}$

c 8

d $\frac{1}{8}$

e 32

f $\frac{1}{32}$

g 2

h $\frac{1}{2}$

i 64

j $\frac{1}{64}$

k 128

l $\frac{1}{128}$

5 Write as a single power of 3:

a 9×3^p

b 27^a

c 3×9^n

d 27×3^d

e 9×27^t

f $\frac{3^y}{3}$

g $\frac{3}{3^y}$

h $\frac{9}{27^t}$

i $\frac{9^a}{3^{1-a}}$

j $\frac{9^{n+1}}{3^{2n-1}}$

6 Write without brackets:

a $(2a)^2$

b $(3b)^3$

c $(ab)^4$

d $(pq)^3$

e $\left(\frac{m}{n}\right)^2$

f $\left(\frac{a}{3}\right)^3$

g $\left(\frac{b}{c}\right)^4$

h $\left(\frac{2a}{b}\right)^0$

i $\left(\frac{m}{3n}\right)^4$

j $\left(\frac{xy}{2}\right)^3$

7 Write the following in simplest form, without brackets:

a $(-2a)^2$

b $(-6b^2)^2$

c $(-2a)^3$

d $(-3m^2n^2)^3$

e $(-2ab^4)^4$

f $\left(\frac{-2a^2}{b^2}\right)^3$

g $\left(\frac{-4a^3}{b}\right)^2$

h $\left(\frac{-3p^2}{q^3}\right)^2$

8 Write without negative exponents:

a ab^{-2}

b $(ab)^{-2}$

c $(2ab^{-1})^2$

d $(3a^{-2}b)^2$

e $\frac{a^2b^{-1}}{c^2}$

f $\frac{a^2b^{-1}}{c^{-2}}$

g $\frac{1}{a^{-3}}$

h $\frac{a^{-2}}{b^{-3}}$

i $\frac{2a^{-1}}{d^2}$

j $\frac{12a}{m^{-3}}$

9 Write in non-fractional form:

a $\frac{1}{a^n}$

b $\frac{1}{b^{-n}}$

c $\frac{1}{3^{2-n}}$

d $\frac{a^n}{b^{-m}}$

e $\frac{a^{-n}}{a^{2+n}}$

10 Simplify, giving your answers in simplest rational form:

a $\left(\frac{5}{3}\right)^0$

b $\left(\frac{7}{4}\right)^{-1}$

c $\left(\frac{1}{6}\right)^{-1}$

d $\frac{3^3}{3^0}$

e $\left(\frac{4}{3}\right)^{-2}$

f $2^1 + 2^{-1}$

g $\left(1\frac{2}{3}\right)^{-3}$

h $5^2 + 5^1 + 5^{-1}$

11 Write as powers of 2, 3 and/or 5:

a $\frac{1}{9}$

b $\frac{1}{16}$

c $\frac{1}{125}$

d $\frac{3}{5}$

e $\frac{4}{27}$

f $\frac{2^c}{8 \times 9}$

g $\frac{9^k}{10}$

h $\frac{6^p}{75}$